WHAT IS CLAIMED IS:

1. A method for the gamma correction of an n-bit video signal, comprising:

separating the n-bit video signal into an m-bit most significant bit portion and an l-bit least significant bit portion, where $n=m+l$ and n is greater than m;

forming a first gamma corrected value by gamma correcting said m-bit most significant bit portion to n-bit accuracy;

forming a second gamma corrected value by gamma correcting M+1 to n-bit accuracy, where M is said m-bit most significant bit portion; and

approximating the n-bit accuracy gamma corrected n-bit video signal by interpolating between said first and second gamma corrected values by said l-bit least significant bit portion.

2. The method of claim 1, wherein the forming of said first and second gamma corrected values is done through use of a look up table.

3. The method of claim 2, wherein said look up table is a $2^m \times n$ look up table.

4. The method of claim 2, additionally comprising:

programming said lookup table with values prior to forming said gamma corrected values.

5. The method of claim 1, wherein said interpolating is by a linear interpolation.

6. The method of claim 5, wherein said linear interpolation is given by the formula

$$\Gamma'(R_{in})=\Gamma(M)+L\cdot(\Gamma(M+1)-\Gamma(M))/2^{l}$$

where M is said m-bit most significant bit portion, $\Gamma(M)$ is said first gamma corrected value, $\Gamma(M+1)$ is said second gamma corrected value, L is said l-bit least significant bit portion, and $\Gamma'(R_{in})$ is said n-bit accuracy gamma corrected n-bit video signal.

7. The method of claim 1, wherein said video signal is one of a R, G, or B signal.

8. A gamma correction circuit comprising:

a decoder providing an n-bit video signal;

a correction unit that receives the m-bit most significant bit portion of said n-bit video signal and derives therefrom a plurality of n-bit gamma corrected video signals, wherein n is greater than m; and

an output circuit that receives the $l=(n-m)$-bit least significant bit portion of said n-bit video signal and said plurality of n-bit gamma corrected video signals, wherein said output circuit produces an n-bit output video signal derived from said plurality of gamma corrected video signals by interpolating by said least significant bit portion.

9. The gamma correction circuit of claim 8, wherein said correction unit derives said plurality of n-bit gamma corrected video signals from values loaded in a look up table.

10. The gamma correction circuit of claim 9, wherein said values are loaded by programming said lookup table.

11. The gamma correction circuit of claim 10, additionally comprising:

a controller, where said values are loaded by the controller programming said lookup table.

12. The gamma correction circuit of claim 9, wherein said lookup table contains a RAM memory for storing said values.

13. The gamma correction circuit of claim 9, wherein said look up table is a $2^m \times n$ look up table.

14. The gamma correction circuit of claim 8, wherein the number of said plurality of said n-bit gamma corrected video signals is two.

15. The gamma correction circuit of claim 14, wherein said correction unit incremented at twice the clock speed with which the decoder supplies said video signal.

16. The gamma correction circuit of claim 14, wherein said interpolating is by a linear interpolation.

17. The gamma correction circuit of claim 16, wherein the first of said two gamma corrected values is formed by gamma correcting said m-bit most significant bit portion to n-bit accuracy, and the second of said two gamma corrected values is formed by gamma correcting M+1 to n-bit accuracy, where M is said m-bit most significant bit portion

18. The gamma correction circuit of claim 17, wherein said linear interpolation is given by the formula

$$\Gamma'(R_{in})=\Gamma(M)+L\cdot(\Gamma(M+1)-\Gamma(M))/2^l$$

where M is said m-bit most significant bit portion, $\Gamma(M)$ is the said first gamma corrected value, $\Gamma(M+1)$ is said second gamma corrected value, L is said l-bit least significant bit portion, and $\Gamma'(R_{in})$ is said n-bit output video signal.

19. The gamma correction circuit of claim 8, wherein said video signal is one of a R, G, or B signal.